**Networking Assignment 4**

1. We will write several network programs at the application layer. We will use Java as default programming language, but you may use another language you are familiar with. For Java, we need the Java SDL (Software Developer’s Kit), the Java API (Application Programming Interface), and the Eclipse IDE (Integrated Developer’s Environment). If you have not installed these tools on your laptop, please do so; you will find the relevant links on our home page.
2. Many standard protocols use standard ports. Find the standard ports for https, ssh, and sftp.
3. Internet protocols are, eventually, defined and published in RFC’s (Requests for Comment) and are maintained by the IETF (Internet Engineering Task Force). What number is the RFC for the “daytime” protocol? Summarize the daytime protocol, as defined in its RFC. Compare the complexity of the daytime RFC with that of RFC 2616, defining the HTTP 1.1 protocol, available through <http://datatracker.ietf.org/doc/rfc2616/>
4. Use telnet to connect to time-a.nist.gov on port 13. You should get a response according to the daytime format. Check <http://www.nist.gov/physlab/div847/grp40/its.cfm> for the exact meaning of that response.
5. Find out the SMTP server of your ISP. If it offers unencrypted access , use Telnet to connect to it on the appropriate port. Once connected, type QUIT to close the connection.
6. Google Mail offers a secure SMTP server requiring authentication at smtp.gmail.com on port 465. Why can you not use Telnet to connect to it and conduct a transaction?
7. Read sections 2.1, 2.2, and 2.4 from the book